

LANG, H.

"Purity of analytic reagents." p. 108

SZABVANYUGYI KOZLEMENYEK. (Magyar Szabvanyugyi Hivatal) Budapest, Hungary  
Vol. 7, No. 5/6/ May/ June 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959  
Uncl.

LANG, H.

Standardization of dyeing, p. 246. MAGYAR TEXTILTECHNIKA  
(Textilipari Muszaki es Tudomanyos Egyesulet) Budapest, No. 7,  
July 1956

Source: EFAL LC Vol. 5, No. 11 Nov. 1956

LANG, HUGO

Analitikai vegyszerek: Finomvegyszerek.

Budapest, Hungary. Kozgazdasagi es Jogi Konyvkiado. Vol. 1. 1958. 336 p.  
Vol. 2. 1958. 341-762 p.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959  
Uncl.

LANG, Hugo, dr., okleveles vegyeszmuernok

MSZ 9449-64 Standard of Tartaric Acid for Alimentation and Industrial Use. Szabvany kozl 16 no.11:199 N '64.

1. Hungarian Bureau of Standards, Budapest.

LANG, I., ing.

Methods and measures for reducing the intervention time; the way of performing the main operations and works of intervention. Petrol si gaze 13 no.11:488-494 N '62.

1. Schela Baicoi.

HUNGARY/Cultivated Plants. Cereals.

M

Abs Jour: Ref' Zhur-Biol., No 17, 1958, 77577.

Author : Lang, Istvan.

Inst

Title : Study of Leaf Surface and General Content of Pigments  
in Leaves of Winter Grains Grown in Sands with the  
Deep Introduction of Manure.

Orig Pub: Agrokem. es talaj., 1957, 6, No 1, 69-78.

Abstract: Tests were conducted at the experimental station  
in Erszentmiklos (Scientific-Research Institute  
of Agrochemistry, AS Hungary, Budapest) on car-  
bonate soils, weak in nutrient substances and  
humus. Deep introduction of manure increases  
the surface of the green leaves in the plants

Card : 1/2

COUNTRY : Hungary  
CATEGORY : Soil Science. Mineral Fertilizers. J  
ABG. JOUR. : RZBiol., No. 23 1958, No. 104:78  
AUTHOR : Szabolcs, István; Leng, István; Koch, Lehelné  
INST. : --  
TITLE : Plant Calcium Uptake on Saline Soils Treated  
with Ameliorating Substances Which Contain Ca<sup>45</sup>  
CRIG. PUR. : Agrokém. és talaj., 1957, 6, No. 3, 195-201  
ABSTRACT : In vegetative experiments on saline soils, fecal matter, calcium sulfate, granules of fecal matter and gypsum were employed as ameliorating substances (in the granules excrements and gypsum were in the ratio 1:1; magnitude of granule was 2.5-5.0 mm). In the experiment difference in dry matter of vetchling plants was not observed between the separate versions. Under the influence of the meliorating substances the Ca content of the plants changed; in vetchling it rose by approximately 20%. Such a difference was found for all the materials used, independent of their amount and quality. On the basis of measurement of the

Card: 1/2

COUNTRY :  
CATEGORY : J  
APL. JOUR. : PZhBiol., №. 23 1958, №. 104478  
AUTHOR :  
INST. :  
TITLE :

ORIG. PUR. :

ABSTRACT : activity of  $\text{Ca}^{45}$  it was established that the application of increasing doses of  $\text{CaCO}_3$  is connected with the increased  $\text{Ca}^{45}$  absorption of active calcium. The plants absorb more  $\text{Ca}^{45}$  when  $\text{CaCO}_3$  is applied than from the same doses of  $\text{CaSO}_4$ . The application of granules with the same and smaller doses causes an increase in absorption of active Ca in comparison with pulverized ameliorating substances.--L. D. Stonov

Card: 2/2

15

LANG, Istvan

Effect of the laminar sand improvement on the crop capacity and nutrient uptake of bean cultivated on sandy soil. Agrokem talajtan 10 no.3:  
389-404 S '61.

1. Magyar Tudomanyos Akademia Talajtani es Agrokemiai Kutato Intezete,  
Budapest.

BIRULEV, M.S.; LANG, I.; LINEV, A.F.; SUKHOV, A.M.; CHELNOKOV, L.P.

Printing time-amplitude pulse analyzer without storage of information. Prib. i tekhn. eksp. 8 no.5:90-97 S-0 '63.

(MIRA 16:12)

LANG, I.

The value of adenosinetriphosphate in therapeutical practice. Ther.  
hung. no.1:1-13 1953. (CIML 24:5)

1. Publication of the Third Department of Internal Medicine (Head--Prof.  
I. Lang, M.D.), Koranyi Municipal Hospital (Director -- Dr. I. Petho),  
Budapest.

*LANG, Istvan, Dr.*

KATONA, Ferenc, Dr.; BENYO, Imre, Dr.: LANG, Istvan, Dr.

Electrotherapy of various paralytic conditions of the gastrointestinal tract; data on the pathophysiology of the smooth musculature.  
Magy. sebeszet 12 no.1:53-56 Mar 59.

1. A Budapesti Orvostudomanyi Egyetem III. sz. Sebeszeti Klinikajának  
(Igazgató: Rubanyi Pal dr.) és az Országos Idegsziszeti Tudományos  
Intézet (Igazgató: Zoltan László dr.) közleménye.

(GASTROINTESTINAL DISEASES, ther.

hypotonic & spastic cond., direct intraluminal  
electrostimulation, pathophysiolog, aspects (Hun))

(ELECTROTHERAPY, in various dis.

hypotonic & spastic cond. of gastrointestinal  
system, direct intraluminal electrostimulation,  
pathophysiolog. aspects (Hun))

LANG, ISTVAN, Dr.

KATONA, Ferenc, Dr.; BENYO, Imre, Dr.; LANG, Istvan, Dr.

Stimulation of the gastrointestinal tract by quadrangular current in animal experiments and clinical cases; preliminary report. Orv. hetil. 100 no.1:24 4 Jan 59.

1. Az Orszagos Idegsebeszeti Tudomanyos Intezet (igazgato: Zoltan Laszlo dr.) es a Budapesti Orvostudomanyi Egyetem III. sz. Sebeszeti Klinikajának (igazgato: Rubanyi Pal dr.) kozlemenye.

(GASTROINTESTINAL DISEASES, ther.

hypotonic & spastic cond., direct stimulation of gastrointestinal tract with quadrangular current, exper. & clin. studies (Hun))

(ELECTROTHERAPY, in various dis.

hypotonic & spastic cond. of gastrointestinal system, direct stimulation with quadrangular current, exper. & clin. studies (Hun))

STEFANICS, Janos, dr.; GORGO, Pal, dr.; NEMETH, Gyula, dr.; LAND, Istvan, dr.

Evaluation of preopertative manometry and cholangiography in surgery  
of the billiary tract. Crv.hetil. 101 no.31;1089-1095 31 Jl '60.

1. Budapesti Orvostudomanyi Egyetem, II. es III. sz Sebeszeti  
Klinika.

(BILIARY TRACT surg)  
(CHOLAGIOGRAPHY)

LANG, Istvan, dr.

The role of square-current electrotherapy of surgical diseases.  
Magy sebesz. 17 no.4:243-245 Ag '64.

1. A Budapesti Orvostudomanyi Egyetem I sz. Sebeszeti Klinika ja  
(Igazgato: Rubanyi Pal dr. egyetemi tanar).

L 32239-66 RM

ACC NR: AP6020834

SOURCE CODE: HU/0036/65/072/006/0435/0441

AUTHOR: Benyo, Imre (Specialist secretary); Egyed, Imre (Specialist secretary); 47  
Lang, Istvan (Specialist secretary)ORG: [Benyo] Department of Medical Sciences, MTA (Orvosi Tudomanyok Osztalya MTA);  
[Egyed] Department of Agrarian Sciences, MTA (Agrartudomanyok Osztalya MTA); [Lang]  
Department of Biology, MTA (Biologiai Osztalya MTA)

TITLE: Protein research and the application of its results in Hungary

SOURCE: Magyar tudomany, v. 72, no. 6, 1965, 435-441

TOPIC TAGS: protein, nutrition, biologic conference, biochemistry, agriculture  
science

ABSTRACT: The article is the report of a meeting on the subject, held 22 Apr and attended by members of the departments mentioned following the authors' names. A summary lecture was given by members of each department during the morning session followed by discussions and sectional lectures during the afternoon session. LANG, G., discussed "The Preparation and Use of Proteins in Hungarian Agriculture". The biological problems of protein supply and the possibilities which may be provided for their solution by theoretical and experimental biology were discussed by FELFOLDY, L. and DENES, G. Some of the other lectures were: "The Cooperative Action of the Forces Which Maintain the Structure of Globular Proteins" by ELODI, P.; "Helical Ribosome Structures" by ROHLICH, P., TOROK, L., and OLAH, I.; "Mechano-Chemical Coupling and Muscle Hypertrophy" by NIEDECZKY, A.; "Population Feeding and Medical Problems Related to Proteins" by SOS, J.; "Protein Digestion, Protein and Amino Acid Absorption" by KERTAI, P.; and "Protein Problems in Infants" by GERLICZ, F. [JPRS]

SUB CODE: 06, 02 / SUBM DATE: none  
Card 1/1

LANG, Istvan

Problems of fertilizing sandy soils with mineral fertilizers  
in Hungary. Zesz probl post roln no.50a:209-219 '64.

1. Department of Sandy Soil Research, Institute of Soil Science  
and Agrochemistry, Hungarian Academy of Sciences, Budapest.

SÁRKADI, Janos, a mezogazdasagi tudomanyok kandidatusa; LANG, Istvan, a  
mezogazdasagi tudomanyok kandidatusa

An account of the 4th symposium on agricultural chemistry. Magy  
tud 69 no.10:661-663 0 '62.

1. Magyar Tudomanyos Akademia Talajtani es Agrokemial Kutato  
Intezete osztalyvezetoje. (for Sarkadi). 2. Magyar Tudomanyos  
Akademia Talajtani es Agrokemial Kutato Intezete tudomanyos  
munkatarsa. (for Lang).

LANG, Istvan

Potassium circulation in the soil-plant system. Agrokem talajtan  
12 no.1:175-188 Mr '63.

LANG, Istvanne, dr.

On experiences with the caloric test of Cawthorne-Pitzerland-Hallpine-Frenzel. Fulorrgégegyogyaszat 7 no.4:159-171 D '61.

1. A fóvarosi Csengeri utcai Rendelointezet (Budapest) @töneurologiai rendelesenek (Főorvos: Lang Istvanne dr.) kozlemenye.

(LAEYRINTH dis)

ORBAN, Lajos, dr.; LANG, Istvanne, dr.

Disorder in determination of time and cochleo-vestibular dysfunction  
as a result of industrial poisonings. Ideggyogy. szemle 14 no.9:266-  
273 S '61.

1. A Fovarosi VI ker. Tandics Szakorrosi Rendelointezetnek Otoneurolo-  
giai Osztalyarol.

(OCCUPATIONAL DISEASES) (COCHLEAR NERVE dis)  
(VESTIBULAR NERVE dis)

LANG, Istvanne, dr.; ORBAN, Lajos, dr.

Vestibulogenic epilepsy. Fulorrgegegyogyaszat. 9 no.2:  
81-84 Je '63.

1. A fővárosi Csengeri utcai Rendelőintézet országos  
otoneurologiai és paedaudiológiai rendeleseknek  
(főorvos: Lang Istvanne (dr.) kozlemenye.  
(EPILEPSY) (VESTIBULAR APPARATUS)

~~LANG~~, I. G.

AUTHORS: Bredov, M. N., Lang, I. G., Okuneva, N. M. 57-2-8/32  
TITLE: On the Depth of Penetration of Medium-Energy Ions Into a Substance  
(K voprosu o glubine proniknoveniya ionov srednikh energiy v veshchestvo).  
PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 2, pp. 252-253 (USSR).

ABSTRACT: Reference is made to the earlier reports given by the authors (references 1 and 2). An evaluation of the depth of penetration of medium-energy ions in germanium at the direct expense of their kinetic energy is given here. It became evident that when a function of the following shape

$$V = \frac{Z_1 Z_2 e^2}{r} \exp(-r/a)$$

is assumed as potential of the interaction between the fast ions and the lattice-atoms (as it was assumed in calculations of a similar kind in references 3 and 4) it is possible, with the taking into account of the multiple collisions according to the Monte-Carlo method, to obtain a curve. This curve represents the dependence of the relative number of ions which have attained the respective depth over the depth itself. In contrast to the widely spread opinion it is shown here that the depth of penetration of ions with the energy investigated here (4 keV) possesses an order of

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57-2-8/32

On the Depth of Penetration of Medium-Energy Ions Into a  
Substance.

magnitude of  $1.10^{-5}$  cm. This is only twice or thrice smaller than the value observed in the test and anyway agrees with it regarding the order of magnitude. Attention is called to the fact that the potential (1) used here which is approximately correct as interaction-potential of free ions does not seem to be sufficiently founded for use in an interaction in a solid body. For in this case the screening constant  $\alpha$  may have another value, but the final result is very highly dependent on this constant. The model itself also is much too crude and does not take into account the anisotropy of the electron-cloud in the covalent crystal.

$$a = \frac{a_0}{\sqrt{\frac{2/3}{Z_1} + \frac{2/3}{Z_2}}}, \text{ where } a_0 \text{ is the Bohr-radius and } Z_1, Z_2 \text{ - the atomic number of the ions and the lattice-atoms.}$$

There are 1 figure, and 4 references, 2 of which are Slavic.

ASSOCIATION: Institute of Semiconductors ASUSSR Leningrad (Institut poluprovodnikov AN SSSR Leningrad).

SUBMITTED: July 17, 1957.

AVAILABLE: Library of Congress.

Card 2/2

1. Ions-Penetration-Mathematical analysis

ANSEL'M, A.I.; LANG, I.G.

Theory of two-phonon scattering of conduction electrons in atomic  
crystals. Fiz.tver.tela 1 no.5:683-695 My '59. (MIRA 12:4)

1. Institut poluprovodnikov AN SSSR, Leningrad.  
(Semiconductors) (Electrons--Scattering)

9.4300 (1043,1138,1143)

85156

S/181/60/002/009/047/047/XX  
B004/B070

AUTHOR: Lang, I. G.

TITLE: Application of the Method of the Density Matrix to the Conduction Electrons Interacting With Lattice Vibrations

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2330-2340

TEXT: The purpose of the work was to study the interaction of an electron system with the thermal vibrations of the lattice. Starting from a paper of Kohn and Luttinger (Ref. 2), the equation of the time-dependent

operator of the density matrix is written as:  $\partial \hat{\rho}_t / \partial t = (i/\hbar) [\hat{H}_t, \hat{\rho}_t]$ .  
and solved in linear approximation with respect to the field. The field is assumed to vary infinitely slowly according to  $E_\omega = E_\omega^{(0)} \text{1st}$ . It is

found that in the first approximation with respect to the parameter of interaction causing the scattering of electrons and phonons, the known kinetic equations are obtained by means of the method of density matrix. The interaction of the electrons with the lattice vibrations by means of Bloch's functions are given in an appendix. Professor A. I. Ansel'm

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Application of the Method of the Density  
Matrix to the Conduction Electrons  
Interacting With Lattice Vibrations'

S/181/60/002/009/047/047/XX  
B004/B070

is thanked for discussions. There are 6 references: 2 Soviet, 1 US, 1  
British, 1 German, and 1 Japanese.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of  
Semiconductors of the AS USSR, Leningrad)

SUBMITTED: March 8, 1960

Card 2/2

S/181/61/003/001/042/042  
B102/B204

AUTHORS: Ansel'm, A. I. and Lang, I. G.

TITLE: Estimation of the part played by many-phonon processes in the scattering of conduction electrons in atomic crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 1, 1961, 308-311

TEXT: Following a previous paper (Fiz.tverd.tela, Vol. 1, p. 683), the authors studied the contribution made by two-phonon processes to the scattering of conduction electrons in atomic crystals by means of the density matrix, as well as the part played by inter-band transitions of electrons in the intermediary state. The electron operators are all represented by Bloch functions ( $u_{nk} e^{iKx}/\sqrt{V}$ ), and the temperature is assumed to be considerably higher than the Debye temperature. The correction  $f_p^{(2)}$  to the diagonal element of the field-dependent addition to the density matrix is determined from an equation containing the known diagonal element  $f_p^{(0)}$  in lowest order with respect to the perturbation

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S/181/61/003/001/042/042

B102/B204

Estimation of the part played by...

$U_1$ . First, the probability ( $P_{pp'}$ ) is determined in the usual perturbation-theoretical way for the transition  $p \rightarrow p'$ , at which two phonons are absorbed (their wave vectors are  $\vec{q}$  and  $\vec{q}'$ ). The amount obtained for

$f_p^{(2)}$  equals  $\sum_{p'} \{ f_p^{(0)} P_{pp'} - f_{p'}^{(0)} P_{p'p} \}$  (2). By means of the density matrix, it is possible to formulate the expression obtained for  $P_{pp'}$  in such a manner that the expression for  $f_p^{(2)}$  does not diverge.

The expression

$$U_{pp'} + \sum_{p'' \neq p, p'} \frac{U_{1pp'} U_{1p''p'}}{\epsilon_p - \epsilon_{p''} - i\epsilon}, \quad (5)$$

which is proportional to  $K_{pp'} = \sum_{\alpha, \beta} c_\alpha^*(q, \omega) c_\beta^*(q', \omega') \left\{ \left( nk \left| \frac{\partial^2 V}{\partial x_\alpha \partial x_\beta} \right| nk + q + q' \right) + \right.$

$$+ \sum_{n'} \frac{\left( nk \left| \frac{\partial V}{\partial x_\alpha} \right| n'k + q \right) \left( n'k + q \left| \frac{\partial V}{\partial x_\beta} \right| nk + q + q' \right)}{\epsilon_{nk} - \epsilon_{n'k+q} - i\epsilon} +$$

$$\left. + \sum_{n'} \frac{\left( nk \left| \frac{\partial V}{\partial x_\beta} \right| n'k + q' \right) \left( n'k + q' \left| \frac{\partial V}{\partial x_\alpha} \right| nk + q + q' \right)}{\epsilon_{nk} - \epsilon_{n'k+q'} - i\epsilon} \right\}, \quad (6)$$
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Estimation of the part played by...

is discussed. Here,

$(\vec{n}\vec{k} \left| \frac{\partial V}{\partial x_\alpha} \right| \vec{n}'\vec{k}') = \frac{1}{\Omega} \int u_{n\vec{k}}^* \frac{\partial V}{\partial x_\alpha} u_{n'\vec{k}'} d\tau_0$  is the matrix element in which

integration is carried out over the volume  $\Omega$  of the unit cell. By means of

$$\left( \vec{n}\vec{k} \left| \frac{\partial V}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right) = (\epsilon_{n\vec{k}'} - \epsilon_{n\vec{k}}) \left( \vec{n}\vec{k} \left| \frac{\partial}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right) + \left( \vec{n}\vec{k} \left| \frac{\partial V}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right), \quad (7)$$

RAO

$$\left( \vec{n}\vec{k} \left| \frac{\partial V}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right) = \frac{\hbar(\vec{k} - \vec{k}')}{m} \left( \vec{n}\vec{k} \left| \vec{p} \frac{\partial}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right) + \frac{\hbar^2(k^2 - k'^2)}{2m} \left( \vec{n}\vec{k} \left| \frac{\partial}{\partial x_\alpha} \right| \vec{n}'\vec{k}' \right)$$

and the condition  $\epsilon_{n\vec{k}} = \epsilon_{n\vec{k}+\vec{q}+\vec{q}}$ , one obtains

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$$\begin{aligned}
 K_{pp'} = & \sum_{\alpha\beta} e_\alpha^*(q, \sigma) e_\beta^*(q, \sigma') \left( \frac{\hbar q q'}{m} \left( nk \left| \frac{\partial^2}{\partial x_\alpha \partial x_\beta} \right| nk + q + q' \right) + \right. \\
 & + \sum_{n'} \frac{\left( nk \left| \frac{\partial V}{\partial x_\alpha} \right| n'k + q \right) \left( n'k + q \left| \frac{\partial V}{\partial x_\beta} \right| nk + q + q' \right)}{\epsilon_{nk} - \epsilon_{n'k+q} - i\epsilon} + \\
 & \left. + \sum_{n'} \frac{\left( nk \left| \frac{\partial V}{\partial x_\beta} \right| n'k + q' \right) \left( n'k + q' \left| \frac{\partial V}{\partial x_\alpha} \right| nk + q + q' \right)}{\epsilon_{nk} - \epsilon_{n'k+q'} - i\epsilon} \right). \quad (8)
 \end{aligned}$$

If, in (8), one separates the terms from the sum over  $n'$ , for which  $n' = n$ , and if one denotes them by  $K_{pp'}^!$ , then  $K_{pp'} = K_{pp'}^! + K_{pp'}^"$ . By expanding (2) in a series of  $ka$ , where  $a$  is the lattice constant, the contribution of lowest order with respect to  $ka$  supplies a term containing  $|K_{pp'}^!|^2$ . The corresponding correction to the mean value of the electron velocity

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Estimation of the part played by...

S/181/61/003/001/042/042  
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in the direction of the electric field is of the order of

$$\frac{\bar{v}^{(2)}}{\bar{v}^{(0)}} \sim \frac{\hbar}{\epsilon_k \tau_1} \quad (10), \text{ where } \epsilon_k = \hbar^2 k^2 / 2m; \bar{v}^{(0)} \text{ is the mean velocity, and}$$

$\tau_1$  is the relaxation time, which are related only to single-phonon scattering. The remaining terms supply the contribution

$$\frac{\bar{v}^{(2)4}}{\bar{v}^{(0)}} \sim \frac{\hbar}{\epsilon_k \tau_1} \cdot \frac{\hbar^4}{e^4 m^2 C^2} \cdot ka = \frac{8 k_0 T}{9 \pi a v_o^2}, \text{ where } C = \frac{\hbar^2}{2m} (n_0 |grad^2| n_0) \text{ is the}$$

single-phonon scattering constant, and  $v_o$  is the velocity of sound. In the following, a paper by Kohn et al. is briefly dealt with (Phys. Rev. Vol. 108, p. 590), in which only the potential  $U_2$  was considered. It may be shown that the relation for  $\bar{v}^{(2)}/\bar{v}^{(0)}$  obtained there is wrong, because the contribution made by  $U_2$  is entirely compensated by that of  $U_1$ . This means that one must not study the scattering of the potential  $U_2$  alone.

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Estimation of the part played by...  
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If  $\hbar^4 k a / m^2 a^4 c^2 \leq 1$ , the contribution of two-phonon processes is of the order of (10). If (10) is not small, all many-phonon processes must be taken into account. The authors thank G. Ye. Pikus for discussions. G. L. Bir is mentioned. There are 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: August 29, 1960

Card 6/6

LANG, I.G.

Study of biphononic processes with the aid of the density matrix method. Fiz. tver. tela 3 no.9:2573-2588 S '61.  
(MIRA 14:9)

1. Institut poluprovodnikov AN SSSR, Leningrad.  
(Crystal lattices) (Electrons--Scattering)

24.6111  
24.7100

37935

S/181/62/004/005/026/055  
B125/B108

AUTHORS: Gurevich, V. L., Lang, I. G., and Firsov, Yu. A.

TITLE: The role of optical phonons in infrared absorption by free carriers in semiconductors

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1252-1262

TEXT: This is a study of infrared absorption by free carriers in semiconducting cubic crystals. The damping (caused by the anharmonic lattice forces) of the optical vibrations ( $\gamma \ll \omega$ ) does not depend on electron concentration. In the case of weak interaction between electrons and optical vibrations, the dielectric constant  $\epsilon(\omega) = \epsilon_L(\omega) + \epsilon_e(\omega)$  consists of the lattice part  $\epsilon_L$  and the electron part  $\epsilon_e = 4\pi i\sigma(\omega)/\omega = a_e(\omega) + ib_e(\omega)$ . For  $\omega\tau \ll 1$ ,  $\sigma$  is virtually independent of  $\omega$  and equal to its statistical value.  $\tau$  is the characteristic relaxation time.  $a_e(\omega) = -4\pi n e^2 / m \omega^2$  holds in the case of a square-law isotropic dispersion. The expressions

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S/181/62/004/005/026/055

The role of optical phonons in infrared... B125/B108

$$\text{Re } \sigma = \frac{2ne^2a}{3m\omega_l} \left(\frac{\omega_l}{\omega}\right)^{1/2} F\left(\frac{\hbar\omega}{2kT}, \frac{\hbar\omega_l}{2kT}\right), \quad (17)$$

$$F(x, y) = \sqrt{\frac{2}{\pi}} x^{-1/2} \frac{\sinh x}{\sinh y} [x - y |K_1(|x - y|) + (x + y) K_1(x + y)|] \quad (18)$$

hold in the case of Boltzmann statistics where  $K_1(z)$  is the MacDonald function of first order. In the limiting cases where  $(\omega - \omega_1)/kT \gg 1$ ,  $|\hbar(\omega - \omega_1)|/kT \ll 1$ , and  $\hbar(\omega_1 - \omega) \gg kT$  at sufficiently low temperatures, Eq. (17) assumes the forms

$$\text{Re } \sigma = \left(\frac{2ne^2a}{3m\omega_l}\right) \left(\frac{\omega_l}{\omega}\right)^{1/2} \left(1 - \frac{\omega_l}{\omega}\right)^{1/2} \quad (19)$$

$$\text{Re } \sigma = \left(\frac{2ne^2a}{3m\omega_l}\right) \left(\frac{2}{\sqrt{\pi}}\right) \left(\frac{\hbar\omega_l}{kT}\right)^{-1/2} \quad (20)$$

and

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The role of optical phonons in infrared.... B125/B108

$$\text{Re } \sigma = \frac{2\pi^2 \epsilon}{3m\omega_1} \left( \frac{\omega_1}{\omega} \right)^{1/2} \left( \frac{\omega_1}{\omega} - 1 \right)^{1/2} \exp \left[ - \frac{\hbar(\omega_1 - \omega)}{kT} \right], \quad (21)$$

respectively.  $\text{Re } \sigma(\omega)$  increases rapidly at frequencies  $\omega \gg \omega_1/kT \approx 1$  because of the threshold production of optical phonons. The dissipation of energy described by  $\text{Re } \sigma(\omega)$  is caused by second-order effects.

$$\text{Re } \epsilon(\omega) = \epsilon_\infty \left[ \frac{(\omega_1^2 - \omega^2)(\omega_1^2 - \omega^2)}{(\omega_1^2 - \omega^2)^2 + \omega^2 \tau_1^2} - \frac{\omega_p^2}{\omega^2} \right], \quad (22).$$

For  $\omega \ll \omega_1$ , the experimental absorption coefficient increases with frequency. For  $\hbar\omega_1/kT \gtrsim 1$ , absorption decreases exponentially with decreasing temperature. In the case of Fermi statistics at  $T=0$ ,

$$\text{Re } \sigma = \frac{\alpha}{3\pi^2 2^{1/2}} \frac{e^2 m^{1/2} \omega_1^{1/2}}{\hbar^{3/2}} \left( \frac{\zeta}{\hbar\omega} \right)^2 \left( \frac{\omega_1}{\omega} \right) f\left(\frac{\hbar\omega}{\zeta}\right), \quad (23)$$

with  
Card 3/5

S/181/62/004/005/026/055

The role of optical phonons in infrared ... B125/B108

$$\left. \begin{aligned} f(x) &= 0 && (\text{for } x < 0); \\ f(x) &= 2(\sqrt{1+x} - \sqrt{1-x}) + x(\sqrt{1+x} + \sqrt{1-x}) - \\ &\quad - \left(\frac{x^2}{4}\right) \ln \frac{\left[\left(1-\frac{x}{2}\right) - \sqrt{1-x}\right] \left[\left(1+\frac{x}{2}\right) + \sqrt{1+x}\right]}{\left[\left(1+\frac{x}{2}\right) - \sqrt{1+x}\right] \left[\left(1-\frac{x}{2}\right) + \sqrt{1-x}\right]} && (\text{for } 0 < x \leq 1); \end{aligned} \right\} \quad (24)$$

$$\left. \begin{aligned} f(x) &= (2+x)\sqrt{1+x} - \left(\frac{x^2}{4}\right) \ln \frac{1+\frac{x}{2} + \sqrt{1+x}}{1+\frac{x}{2} - \sqrt{1+x}} && (\text{for } x \geq 1); \\ x &= \frac{\hbar(\omega - \omega_1)}{kT} \end{aligned} \right\} \quad (25)$$

is valid when  $\hbar\omega_1/kT \ll 1$ ,  $|\hbar\omega - \omega_1|/kT \gg 1$  and  $p_F^2/2E \gg kT$ .  $p_F$  is the Fermi momentum. There are 4 figures. The most important English-language reference is: R. Newman. Phys. Rev., 111, 1518, 1958.

Card 4/5

The role of optical phonons in infrared .... S/181/62/004/005/026/055  
B125/B106

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of  
Semiconductors AS USSR, Leningrad)

SUBMITTED: January 2, 1962

Card 5/5

247700

43374

S/056/62/043/005/038/058  
B102/B104

AUTHORS: Lang, I. G., Firsov, Yu. A.

TITLE: Kinetic theory of semiconductors with low mobility

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 5(11), 1962, 1843 - 1860

TEXT: A certain type of semiconductors is characterized by very low carrier mobility ( $u \ll 1 \text{ cm}^2/\text{v}\cdot\text{sec}$ ) and, at  $T \gtrsim T_{\text{Debye}}$ , by a typical temperature dependence:  $u \sim \exp(-E_a/kT)$ , where  $E_a$  is the activation energy (cf. Phys. Rev. 112, 1861, 1958; J. Chem. Phys. 26; 582, 1957). This  $u(T)$  dependence of the low-mobility semiconductors can be explained only by assuming multiphonon scattering when strong interaction exists between carriers and lattice vibrations. At  $T < T_{\text{Debye}}$  the carriers are nonlocalized polarons with small radius. There exists a temperature range where the indeterminacy of the polaron energy exceeds the polaron band width ( $\hbar\omega_k \gtrsim \Delta E_p$ ) where the superbarrier jumps contribute only little to the con-

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S/056/62/043/005/038/058

B102/B104

Kinetic theory of semiconductors...

ductivity. The kinetic theory for this range, and for higher temperatures ( $T > T_{\text{Debye}}$ ) where classical superbarrier jumps of the carriers from site to site are the main mechanism, is derived and discussed in great detail. The time between these site-to-site jumps  $\Delta t$  is less than the characteristic time  $t_p$  of tunnel transitions but much greater than the collision-induced time  $t_0$  of jumps:

$$t_p \gg \Delta t \gg t_0, \quad t_0 < \omega_0^{-1}, \quad \Delta t \gg \omega_0^{-1},$$

$$t_p = \frac{\hbar}{\Delta E_p} \sim \frac{\hbar}{J} e^{E_a kT}, \quad t_0 \sim \frac{\hbar}{(E_a kT)^{1/2}}, \quad \Delta t \approx \frac{1}{W_H} = \frac{\hbar^2}{J^2 t_0} e^{E_a kT}. \quad (40)$$

$\omega_0$  is the frequency of longitudinal optical phonons,  $J$  is the width of the conduction band. In addition the inequalities

$$\eta_2 = J^2/(E_a kT)^{1/2} \hbar \omega_0 \ll 1, \quad \text{r. e. } t_s > (t_0/\omega_0)^{1/2}. \quad (41)$$

will be valid, demanding a narrow conduction (or valence) band. This is the case e.g. for NiO-type semiconductors. The electrical conductivity  
Card 2/3

Kinetic theory of semiconductors...

S/056/62/043/005/038/058  
B102/B104

due to the above mentioned jumps will be proportional to  $\exp(-E_a/kT)$  also in a wider temperature range if  $\eta_2 \sim T^{-1/2}$ . For the polaron-phonon scattering a transfer equation is derived by which various kinetic coefficients can be calculated. There are 3 figures. The most important English-language references are: I. Yamashita, T. Kurosawa, J. Chem. Phys. Solids, 5, 34, 1958; J. Phys. Soc. Japan, 15, 802, 1960; R. Kubo, J. Phys. Soc. Japan, 12, 570, 1957; G. H. Wannier, Phys. Rev. 52, 191, 1937.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors of the Academy of Sciences USSR)

SUBMITTED: June 6, 1962

Card 3/3

LANG, I.G.,; FIRSOV, Yu.A.

Mobility of small-radius polarons at low temperatures. Zhur. eksp.  
i teor. fiz. 45 no.2:378-380 Ag '63. (MIRA 16:9)

1. Institut poluprovodnikov AN SSSR.  
(Polarization (Nuclear physics))

LANG, I.G.; FIRSOV, Yu.A.

Mobility of polarons of small radius at low temperatures. *Fiz. tver. tela* 5 no.10:2799-2817 0 '63. (MIRA 16:11)

1. Institut poluprovodnikov AN SSSR, Leningrad.

L 18245-65 EWT(1)/T/EEC(b)-2 IJP(c)/AFMD(t)/AS(mp)-2/ASD(a)-5/BSD/ESD(dp)/  
ESD(gs)/ESD(t)

ACCESSION NR: AP5000664

S/0181/64/006/012/3640/3645

AUTHORS: Lang, I. G., Pashabekova, U. S.

TITLE: Theory of long-wave optical vibrations in anisotropic crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3640-3645

TOPIC TAGS: crystal anisotropy, optical vibration, dielectric constant, uniaxial crystal, light reflection

ABSTRACT: The theory of long-wave optical vibrations, developed by Born and Huang Kun (Dynamical Theory of Crystal Lattices, Oxford, 1954) is extended to include the case of anisotropic crystals. The authors study the properties of the bands of total reflection from the surface of such crystals and calculate the dielectric constant of uniaxial crystals, with account of frequency dispersion. The position of the opacity bands of such crystals is determined as a

Cord 1/2

L 18245-65

ACCESSION NR: AP5000664

4

function of the orientation of the plane bounding the crystal surface, relative to the crystal axis. It is shown that there are two opacity bands, separated by a transparency interval. In the case of biaxial crystals with arbitrary orientation of the reflection surface relative to the two optical axes, there are three total-reflection bands. "In conclusion the authors thank V. L. Gurevich and Yu. A. Firsov for fruitful discussions." Orig. art. has: 4 figures and 29 formulas.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AN SSSR); Institut fiziki AN AzerbSSR, Baku (Institute of Physics, AN AzerbSSR)

SUBMITTED: 15Jul64

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 001

OTHER: 001

Card 2/2

L 30969-66 EWA(h)/EWT(i)/T IJP(c) GG/AT

ACC NR: AP6000846

SOURCE CODE: UR/0181/65/007/012/3502/3511

AUTHORS: Lang, I. G.; Pashabekova, U. S.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR); Institute of Physics AN AzSSR, Baku (Institut fiziki AN AzSSR)

TITLE: Spatial dispersion of long wave optical lattice oscillations in polar semiconductors

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3502-3511

TOPIC TAGS: plasma decay, plasma interaction, semiconductor plasma, optic property, crystal lattice vibration

ABSTRACT: The authors calculate the laws of dispersion and attenuation of interacting plasma and strong-wave longitudinal optical oscillations in a polar semiconductor. The problem is solved for the cases when the hole gas is nondegenerate and the Boltzmann statistics are applicable. The zeroth approximation equation is derived and the corrections necessitated by account of the electron-phonon interaction are estimated. According to the derived dispersion laws, the frequency of the longitudinal oscillations should be approximately equal to the frequency of the transverse oscillations, since the longitudinal electric field pro-

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L 30969-66

ACC NR: AF6000846

duced during the longitudinal oscillations and causing normally the frequency difference between the longitudinal and transverse oscillations is in this case screened by the free electrons or holes. Possible means of experimentally checking the results are discussed. Author thanks V. L. Gurevich and Yu. A. Firsov for suggesting the topic and useful discussions. Orig. art. has: 2 figures and 62 formulas.

SUB CODE: 20/ SUBM DATE: 17May65/ ORIG REF: 005/ OTH REF: 005

Card

2/2 CC

LANG, J.

HUNGARY/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 11, 1958, No 25558

Author : Lang, J.

Inst : Institute for Experimental Physics, The University, Szeged,  
Hungary.

Title : Properties of PbSe Layers with Silver Additives in an Atmosphere  
of Air.

Orig Pub : Acta phys. et chem. Szeged. 1957, 3, No 1-4, 27-32

Abstract : A study was made of the dependence of the dark conductivity  
and photoconductivity of pure layers of PbS and of PbSe with  
various contents of impurities, as a function of the air pres-  
sure. The PbSe layers were produced in high vacuum using the  
method of Lawson (Lawson, W.D., Journal of Applied Physics,  
1952, 23, 495) and by a chemical method.

When transferring the PbSe layer from vacuum ( $10^{-5}$  mm  
mercury) into air, its dark conductivity is increased rapidly  
by more than two orders of magnitude. After 60 minutes of  
stay in the air, the layer has an almost constant resistance.

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29

Card : 2/2 parallel layers with a good and stable photosensitivity in  
air.

LANG, J.

HUNGARY/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 9, 1958, No 20696

Author : Gombay L., Gyulai J., Lang J.  
Inst : Institute for Experimental Physics, The University, Szeged,  
Hungary.  
Title : On the Determination of the Concentration and Mobility of  
Current Carriers in Semiconductors of the Mixed Type.

Orig Pub : Acta phys. Acad. sci. hung., 1957, 8, No 1-2, 203-209

Abstract : A method is developed which makes possible determination of the concentration and mobility of electrons and holes in semiconductors with mixed conductivity from measurements of the conductivity, the Hall constant, the thermal emf, and measurement of resistance in a transverse magnetic field. The applicability of the method was verified by several measurements using specimens of ferrosilicium containing 97.70% silicon.

Card : 1/1

LANG, J.

"Myriapoda in the natural reserve Velky and Maly Tisy." p. 1

OCHRANA PRIRODY. Praha, Czechoslovakia, Vol. 14, No.1, Feb. 1959

Monthly list of East European Accession Index (EEIA), Library of Congress,  
Vol. 8, No. 7, July, 1959, Unclassified

hang, T.

✓ Mode of action of insulin. I. The metabolism of diabetic muscles in situ. II. Issekutz, Jr., G. Hétényi, Jr., M. Winter, J. Lász, and I. Lajos (Med. Univ., Szeged). *Acta Physiol. Acad. Sci. Hung.* 7, 45-97 (1953) [in German]. *C.A.* 48, 8409c.—The O<sub>2</sub> consumption of the striated skeletal muscles *in situ* of pancreatectomized dogs was 16.2% less than that of control animals. The glucose consumption (I) of the muscle of hyperglycemic pancreatectomized dogs was as large as that for the control animals. The I of muscle in diabetic animals increased after the injection of insulin (II) and increased still more following intravenous infusion of glucose. II acted as effectively on the I of the liver in the intact animal as it did on the muscle. II increased O<sub>2</sub> consumption in the muscle of diabetic animals. II eliminated the production of inorg. P in muscles of diabetic animals and resulted in some P retention. The max. retention coincided with the max. I and O<sub>2</sub> consumption. Since these results cannot be explained by increased I, it was concluded that II increased the energy-rich phosphate ester in the cell. *Edwin L. Sexton*

(4)

LANG, J.

V. Muscle metabolism in tourniquet shock. B. Issekutz,  
Jr., G. Hetényi, Jr., M. Winter, J. Lang, and I. Lajos MD  
(Med. Univ., Szeged). *Acta Physiol. Acad. Sci. Hung.* 7,  
381-74(1955)(in German).—A tourniquet was applied in the  
region of the inguinal ligament to 1 or both hind legs of  
dogs. It was released after 4 hrs. and the metabolism of the  
muscle was studied. Blood was taken from the femoral  
vein. In the first 40-60 min. after the release of the tourni-  
quet, an increase in metabolism (increase in O utilization and  
release of lactic acid) was found with an increase in inorg.  
phosphate and a diminution of adenosinetriphosphate (I).  
During the next 2 hrs., the O utilization and the lactic acid  
release became normal, the tissue I remained low, and the  
loss of phosphate was at normal levels. Thereafter, the  
blood pressure, circulation, and metabolism fell and the  
animals died 4-4.5 hrs. after the release of the tourniquet.  
An injection of 2,4-dinitrophenol during the second phase  
increased the circulation in the muscle and the O utilization  
by a factor of 3-4. A. Dietz.



LANG, J.

Mechanism of action of insulin. III. Action of insulin and of glucose loading in 2,4-dinitrophenol poisoning. G. Metenyi, Jr., B. Issekutz, Jr., M. Winter, J. Lang, and I. Lajos (Med. Univ., Szeged). *Acta Physiol. Acad. Sci. Hung.* 7, 376-83 (1955) (in German); cf. C.A. 49, 13160i. In pancreatectomized dogs poisoned with 2,4-dinitrophenol insulin did not reduce the elevated O use but did reduce the blood sugar and phosphate by increasing the muscle uptake of glucose and phosphate. Glucose administration, which elevated the blood sugar to 400-600 mg. %, also reduced blood phosphate by increasing muscle phosphate retention. At a blood sugar level of 350-400 mg. % dinitrophenol did not elevate blood phosphate. The results are discussed with reference to the mechanism of action of insulin and of exercise, both of which increase glucose utilization. IV. Action of insulin and of glucose loading in tourniquet-shock. *Ibid.* 385-99.—In tourniquet-shock in dogs insulin reduced blood phosphate and increased the adenosinetriphosphate of the ischemic and normal muscles. Under similar conditions in depancreatized dogs, when the blood sugar was artificially elevated to 700-800 mg. %, the blood phosphate was lowered and, to a smaller extent than with insulin, the adenosinetriphosphate of the ischemic and the normal muscles was increased. The life of the animal in tourniquet-shock was not prolonged by the conjoint administration of large doses of insulin and of glucose infusions.

S. Ellis

LANG, J.

On the effect of meteorological factors on the incidence of  
factory accidents. Acta chir. acad. sci. Hung. 4 no.2:103-109  
'63.

1. Chirurgische Abteilung (Chefarzt: Dr. E. Orlos) des Margit-  
Krankenhauses, Budapest.  
(WEATHER) (ACCIDENTS, INDUSTRIAL)  
(STATISTICS)

GOMBAY, L.; LANG, J.; KISPETER, J.

Change of photoelectric current of double-dosed cadmium sulfide  
photoconductors in the air and vacuum. Acta phys chem Szeged  
10 no.1/2:23-30 '64.

1. Institut fur Experimentalphysik der Attila Jozsef Universitat,  
Szeged.

KISPETER, J.; LANG, J.; GOMBAY, L.

Influence of electrical formation on cadmium selenide-selenium barrier layers of various thickness. Acta phys chem Szeged 10 no.3/4:85-90 '64.

1. Institut fur Experimentalphysik der Atilla Jozsef Universitat, Szeged.

LANG, Janos, dr., a torterelem (neprajz) tudomany kandidatusa

Ethnography, psychology, folk psychology. Magy pszichol  
szemle 20 no.4:601-606 '63.

LANG, Janos, dr., a tortenelem (neprajz) kandidatusa

.Totemism and prelogical consciousness. Magy pszichol szemle  
20 no.2:242-252 '63.

LANG, Janos, dr.

Liver necrosis, unusual complication of gastric resection. Orv.  
hetil. 101 no.42:1497-1498 16 0 '60.

1. Budapesti Margit Korhaz, Sebeszeti Osztaly  
(LIVER DISEASES etiol.)  
(GASTRECTOMY compl.)  
(NECROSIS etiol.)

LANG, Janos, dr.

A case of bifurcated urachus fistula. Orv.hetil. 101 no.45:  
1609-1611 6 N '60.

1. Budapesti Margit Korhaz, Sebeszeti Osztaly.  
(VESICAL FISTULA case reports)

HUNGARY

Leng, Janos, Candidate of Historical (Folkloristic) Sciences (affiliation not given).

"Totemism and Pre-Logical Consciousness"

Budapest, Magyar Pszichologai Szemle, Vol 20, No 2, 1963, pp 242-252.

Abstract: [Author's English summary, abbreviated] Theories concerning the pre-logical consciousness of primitive societies are based primarily on the false interpretation of legends and on the assumption that the natives believe in originating from animals, plants, or natural phenomena. After describing the neuro-psychological mechanism of the particular psychic manifestation presenting itself in the legends, the alleged ante-logic or pre-logic creeds of the primitives are discussed. The work made with the cognitional contents of thoughts and the work made with the material of the language was separated. Twenty-two references, including 10 Hungarian, 1 German, and 11 Western.

1/1

KUOKA, RICHARD; YANNI, NIKOS, Secretary; VILLAS, JAMES, Director

Never underestimate the importance of the terrain and weather.  
Constantly changing conditions make it difficult to predict what will happen.

584 D 164000Z

1. Hungarian Ministry of Defense, Budapest (for KUOKA).  
2. Hungarian Ministry of Defense, Ankara, Turkey (for YANNI).  
3. Hungarian Ministry of Defense, Ankara, Turkey (for VILLAS).

LANG, B.; LANG, K.

Glycoproteins in the cerebrospinal fluid. V. Relation of whole  
proteins in the cerebrospinal fluid to bound sugars. Cas.lek.  
cesk. 99 no.3/4:95-98 22 Ja '60.

1. Chemicky ustav, prednosta prof.dr. Fr. Santavy, a neurologicka  
klinika, prednosta prof.dr. J. Hrbek, lekarske fakulty Palackeho  
university v Olomouci a Prirodovedecka fakulta university v Brne.  
(GLYCOPROTEINS cerebrospinal fluid.)

LANG, K., prof., dr. (Mainz, Deutsche Bundesrepublik)

Denaturation of food proteins and destruction of amino acids during  
the thermic processing of foods. Acta chimica Hung 23 no.1/4:  
241-245 '60. (EEAI 10:9)

1. Physiologisch-Chemisches Institut der Johannes-Gutenberg Universi-  
tat zu Mainz.

(Nucleic acids) (Food) (Proteins) (Amino acids)  
(Enzymes)

LANG, Karoly; MALCSINER, Jozsef; NEMETH, Janos; VERTES, Sandor;  
ARANYI; KOVACS, Vilmos; TRAJKOVICS, Jozsef; NEMETH, Gyorgy;  
RACZ, Otto; PFISZTER, Janos

Plastic pattern production in the Csepel Iron and Steel  
Foundries. Koh lap 97 no. 2:Suppl.:Ontode 15 no. 2:39-45  
F '64.

1. Csepel Iron and Steel Foundries, Budapest (for Lang, Malcsiner  
and Racz). 2. Ganz-Mavag (for Janos Nemeth, Vertes and Aranyi).

LANG, L.

LANG, L. New system of work assignment in the building industry. p. 22.

Vol. 9, No. 12, Dec. 1955.

TÖVETÉRMÉIES.

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

LANG, L.

Artificial drying of sawmill products. p. 120. FAIPAR. (Faipari  
Tudomanyos Egyesulet) Budapest. Vol. 6, no. 5, May 1956.

SOURCE: East European Accessions List (EEAL) Library of Congress  
Vol. 5, no. 8, August 1956

LANG, Laszlo, a kemial tudomanyok kandidatusa

An account of the Prague study trip. Kem tud kozl MTA 18 no.4:  
615-617 '62.

1. Budapesti Műszaki Egyetem Fizikai Kemial Tanszéke, Budapest.

DOBOLY, Otto; LANG, Lajos, kandidatus

Spectroscopic analysis of the mechanism of dyeing textiles. Kozl tud  
kozl MTA 18 no.2:221-242 '62.

1. Kozponti Kolorisztikai Kutato Laboratorium, Budapest, es Muszaki  
Egyetem Fizikai Kemiai Tanszeke, Budapest.

CA

Absorption spectra of diastereoisomeric alkanolamine derivatives. Preliminary communication. József Kiss and László Láng. *Acta Univ. Szeged., Chem. et Phys.* 2, 209-12 (1949) (in English). -*d*-Ephedrine had absorption max. at 251, 258, and 261 m $\mu$ ; *D*- $\alpha$ -ephedrine 251, 258, and 265; *N*-benzoyl-*d*-ephedrine, *N*-benzoyl-*D*- $\alpha$ -ephedrine, *N*-benzoyl-*d*-norphephedrine, *N*-benzoyl-*D*-nor- $\alpha$ -ephedrine, *N*-benzoyl-*O*-acetyl-*d*-norphephedrine and *N*-benzoyl-*O*-acetyl-*D*-nor- $\alpha$ -ephedrine showed ascending branches; *N*-acetyl-3,4-diethoxy-*d*-norphephedrine at 280 and 290; *N*-acetyl-3,4-diethoxy-*d*-nor- $\alpha$ -ephedrine at 280 and 290; *N,O*-diacetyl-3,4-diethoxy-*d*-norphephedrine at 290 and 234; *N,O*-diacetyl-3,4-diethoxy-*d*-nor- $\alpha$ -ephedrine at 280 and 233; *N*-acetyl diphenylethanolamine at 251, 258, and 265; *N*-acetyl diphenyl- $\alpha$ -ethanolamine at 252, 258, and 265; whereas *N*-benzoyldiphenyl- $\alpha$ -ethanolamine showed amine and *N*-benzoyldiphenyl- $\alpha$ -ethanolamine showed ascending branches. István Finály

LANG, L.

"Investigation of the Spectra of Diastereo-Isomers." In English. p. 1. Budapest,  
Vol. 4, no. 4, 1953.

SO: East European Acquisitions List, Vol. 3, No. 9, September 1954, Lib. of Congress

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The spectra of diastereoisomers. I. Lang and M. Vitezay  
(Central Research Inst. Phys., Budapest). *Acta Chim. Acad. Sci. Hung.* 4, 1-4 (1951) (in English).—Ultraviolet absorption spectra are reported for aq. solns. of PhCH(R)-CHR'R'' (I) and  $\beta$ -O<sub>2</sub>NCH<sub>2</sub>CH(R)-CHR'R'' (II). Spectra of benzene and PhVO<sub>4</sub> are included for comparison. Restricted rotation between the CH groups in the side chain renders abs. cis and trans configurations impossible, but a "more cis than trans" constitution or vice versa is attributed to the forms having R and R' on the same (a) or on opposite (b) sides of the CCR'' chain, resp. IA (R, R', R'' = OH, NHMe, Me, resp.) a shows absorption max. ( $\lambda$  (mp)) ( $\log \epsilon$ ) at 261.5 (1.90), 257.5 (1.96), and 264 (1.08), whereas IAa absorbs at 252 (2.03), 258 (2.13), and 263.8 (2.14). The corresponding data are for IB (R, R', R'' = OMe, Br, CO<sub>2</sub>H, resp.) a, 252 (2.50), 257.5 (2.53), 262 (2.44), 263.5 (2.44), 268 (2.28); b, 251.5 (2.72), 258 (2.66), 263 (2.65), 269 (2.34); for IC (R, R', R'' = OMe, NH, CO<sub>2</sub>H, resp.) a, 247 (2.09), 252 (2.17), 257.5 (2.25), 262 (2.17), 268 (2.05); b, 247.5 (2.07), 251.5 (2.18), 257.5 (2.37), 263.5 (2.18); for II (R, R', R'' = OH, NH, CH<sub>2</sub>OH, resp.) a, 233 (3.50), 275 (3.89); b, 237 (3.70), 275 (4.01). The differences in  $\epsilon_{max}$  are such that one of any pair of diastereoisomers can be detd. in the presence of the other. The isomers with the higher values of  $\log \epsilon$  (b compounds above) are assigned the trans configuration, since their R and R' groups would have less interaction with each other and hence the substitutional effect of the side chain would be greater. The smaller differences in  $\epsilon_{max}$  in IC are attributed to probable amphoteric formation between NH and CO<sub>2</sub>H, which would prevent much of the mutual field effect between NH(R') and OMe (I). H. S. French

LANG, L.

✓ Specific influence of substituents [on the ultraviolet spectrum] of angular condensed aromatic hydrocarbons. 7

Eva Falta and László Lang (Magyar Tudományos Akad. Központi Fiz. Kutató Intézet, Budapest, Hung.). Magyar Tudományos Akad. Kéziratú Fiz. Kutató Intézetének Közleményei 3, 323-40(1955); cf. *ibid.* 2, 431(1954).—Detailed data about the ultraviolet spectra of substituted phenanthrene (I) derivs.: (1) 9-Me., 9-Et., 9-isopropenyl-, and 9-acetamido-I; the spectrum differs only slightly from the spectrum of I; (2) 9-hydroxy-, 9-methoxy-, 9-cyano-, and 9-carboxy-I; the spectrum is postponed to the longer wave lengths; (3) 9-amino- and 9-nitro-I; the spectrum differs completely from that of I. The m.p. of 9-acetamido-I is 198-7° and not 207-8° as given in the literature.

TA  
H

L. S. Ettre

2/2-2 (1/3)

LANG, LASZLO

Hungary/Analytical Chemistry - General Questions, G-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61811

Author: Lang, Laszlo; Falta, Eva

Institution: None

Title: On an Important Application of the Method of Absorption Spectroscopy in the Ultraviolet Region

Original  
Periodical: Az ultraibolya abszorpcios spektroszkopia egyik fontos alkalmazasáról,  
Magyar kem. folyoirat, 1956, 62, No 2, 66-67; Hungarian; German  
resumé

**Abstract:** The method of spectroscopy in the ultraviolet region is applicable for identification of various compounds. To secure accurate results it is necessary to use a composite control system and carry out a complete analysis (microanalysis), determine the melting point or the boiling point and absorption in the ultraviolet region of the spectrum. Examples are given which illustrate the effectiveness of the proposed identification procedure.

Card 1/1

Orig Pub : Acta chim. Acad. Sci. Hung., 1971, 24, 101-107

**Abstract :** The authors consider the possibility of employing ultraviolet microscopy to identify substances. It is shown

APPROVED for spectroscopy, to identify substances. It is shown

that in the identification of substances under control (total microanalysis, determination of the melting point and of the boiling point, and plotting the ultraviolet absorption spectrum) can yield reliable results.

Card : 1/1

HUNGARY/Optics - Optical Methods of Analysis.

K

Abs Jour : Ref Zhur Fizika, No 10, 1959, 23876

Author : Falta, Eva; Lang, Laszlo

Inst :

Title : Use of Ultraviolet Spectra. Part III. Spectra of Mixtures.

Orig Pub : Magyar tud. akad. Kozp. fiz. kutato. int. kozl., 1958, 6, No 3, 165-171, V-VI

Abstract : An investigation was made of the determination of contaminations in condensed aromatic hydrocarbons. Work was performed of the determination of the conditions of purity for the following "mixtures" of condensed aromatic hydrocarbons: anthracene phenanthrene, tetrapheno naphthacene and anthracene-phenanthrene - fluorene. --  
L. Dmitrenko

Card 1/1

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000928520007-8

Abs Jour : Ref Zhur Fizika, No 12, 1959, 28540

Author : Falta, Eva; Ladik, Janos; Lang, Laszlo

Inst :

Title : Investigations of the Spectrum of Bent Condensed Aromatic Hydrocarbons by Experimental and Theoretical Methods.

Orig Pub : Magyar. tud. akad. Kozp. fiz. kutato int. kozl., 1958, 6, No 3, 172-197, VI-VII

Abstract : The authors indicate the need for modifying the theory of oriented absorption of light. It is shown that the system of bands of phenanthrene at 376 millimicrons is due to the presence of anthracene. The calculated wave numbers for the four lower singlet bands of phenanthrene coincide with the results of the measurements with accuracy 10%. It is observed that the direction of polarization; in accordance with the

Card 1/2

LANG, L.

"Absorptionsspektren im ultravioletten und im sichtbaren Bereich; theoretische Einführung. Bearb. und hrsg. von L. Lang, unter Mitwirkung von J. Szoke, G. Varsanyi und M. Vizesy. Die theoretische Einführung wurde von G. Varsanyi geschrieben."

Budapest, Hungary, Verlag der Ungarischen Akademie der Wissenschaften, 1959.  
83 p.

Monthly list of East European Accessions (FEAI), LC, Vol. 8, No. 8, August  
1959.  
Unclia.

LANG, L.

Collaborators: J. Szoke, G. Varsanyi and M. Vizesy

Absorption spectra in the ultraviolet and visible region.

Budapest, Hungary. Akademiai Kiado. Vol. 1, 1959, 438 p.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959  
Uncl.

LANG, L., doktor (Budapest)

Letter to the editor. Opt. i spektr. 8 no.6:882 Je '60.  
(MIRA 13:8)

(Hungary--Absorption spectra)  
(Hungary--Spectrum, Ultraviolet)

DOBOZI, O.K.; LANG, L.; KHORVAT, G. [Horvat, G.]

Spectroscopic study of the mechanism of dyeing textile materials.  
Zhur, prikl. khim. 34 no.1:204-208 Ja '61. (MIRA 14:1)

1. TSentral'naya issledovatel'skaya laboratoriya koloristiki i  
Kafedra fizicheskoy khimii Politekhnicheskogo universiteta, Budapest.  
(Iyes and dyeing--Spectra)

DOBOZY, O. K.; LANG, L.; HORVATH, G.

Spectroscopic investigation of the dyeing mechanism of textile fabrics.  
Magy textil 13 no.4:149-151 Ap '61.

LANG, Laszlo; BEKE; BARZAI, Marietta; BIKE, Denes

Data on the chemistry of heterocyclic, pseudobasic amino carbocls.  
XIX. Comparative ultraviolet spectroscopic investigation of  
cotarnine and some structurally close compounds. Magy kem folycir  
67 no. 9:364-367 Ap '61.

1. Budapesti Műszaki Egyetem Fizikai-Kemiai es Szerves Kemiai  
Tanszéke 2. "Magyar Kemiai Folyoirat" szerkesztő bizottsagi  
tagja (for Beke).

DOBOZY, Otto; LANG, Laszlo, kandidatus

Spectroscopic examination of the mechanism of dyeing textile fabrics. Kem tud kozl MTA 18 no.2:221-242 '62.

1. Kozponti Kolorisztikai Laboratorium, Budapest, es Muszaki Egyetem Fizikai Kemial Tanszeke, Budapest.

LANG, L. (Budapest XI., Gellert ter 4); BARCZAI-BEKE, M. (Budapest XI.,  
Gellert ter 4); BEKE, D., prof. (Budapest XI., Gellert ter 4)

Contributions to the chemistry of heterocyclic pseudobasic  
aminocarbinols. XIX. Comparative ultraviolet-spectroscopic  
investigation of cetrarnine and some structural related compounds.  
Periodica polytechn chem 5 no.4:313-319 '61.

1. Lehrstuhl fur Physikalische Chemie und Lehrstuhl fur  
Organische Chemie, Technische Universitat.

LANG, Laszlo

Revision of norms and basic wages in the construction industry and some related tasks for the enterprises. Epites szemle 6 no.12:363-366 '62.

1. Epitesugyi Miniszterium Munkaugyi Foosztalyanak vezetoje,es "Epitesugyi Szemle" szerkeszto bizottsagi tagja.

DOBOZY, Otto; LANG, Laszlo

Spectroscopic studies on the dyeing process of woven fabrics. Przegl  
włokien 16 no.12:649-656 D '62.

1. Centralne Kolorystyczne Laboratorium Badawcze, Budapest (for Dobozy).
2. Katedra Chemii Fizycznej, Politechnika, Budapest (for Lang).

LANG, Laszlo

Experiences with the premium system introduced in the construction and silicate industries in 1964. Epites szemle 8 no.3:70-75 '65.

1. Head, Department of Labor of the Ministry of Construction, Budapest, and Editorial Board Member, "Epitesugyi Szemle."

L 44752-66 IJF(c)  
ACC NR: AP6032899

SOURCE CODE: HU/0025/65/024/001/0079/0083

AUTHOR: Zimmer, Karoly (Candidate of sciences); Lang, Laszlo (Candidate of sciences) ✓  
ORG: Department of Inorganic and Analytical Chemistry, Eotvos Lorand Scientific  
University (Eotvos Lorand Tudomanyegyetem Szervetlen es Analitikai Kemial Tanszeke);  
Department of Physical Chemistry, Budapest Technical University, Budapest (Budapesti  
Muszaki Egyetem Fizikal Kemial Tanszeke)

TITLE: Report on the III. Spectroscopy Conference held in Rumania

SOURCE: MTA. Kemial tudomanyok osztalyanak kozlemenyei, v. 24, no. 1, 1965, 79-83

TOPIC TAGS: chemical conference, spectroscopy

ABSTRACT: The conference was held in Bucharest between 29 Nov and 5 Dec 64, and was  
organized by the Committee on Spectroscopy of the Rumanian Academy of Sciences. The  
topic of the conference was emission and (UV, IR, Raman and radio-wave) molecular  
spectroscopy. A total of 215 persons participated, most of them from Rumania, but  
the following countries were also represented (in decreasing order of number of  
participants): Hungary, East Germany, Bulgaria, Yugoslavia, Czechoslovakia, Poland,  
Japan, England, Italy and USSR. Of the Hungarian participants, Istvan Kovacs  
discussed the spectroscopic study of diatomic molecules; Karoly Zimmer the methods  
used for constructing the blackening curve; and L. Almasi was co-author, with  
H. Hantz, of a paper dealing with IR-spectroscopic measurements of various esters  
of arylsulfonamidophosphoric acids. [JPRS: 35,397]

SUB CODE: 07 / SUBM DATE: none

Card 1/1 ULR

0720 0416

L 01253-67

ACC NR: AT6035621

SOURCE CODE: HU/2502/66/047/004/0405/0418

DOLESCHALL, Dr Gabor, LANG, Dr Laszlo, and LEMPERT, Prof Dr Karoly, of the Research Group for Alkaloid Chemistry of the Hungarian Academy of Sciences, Department of Physical Chemistry, and Department of Organic Chemistry, Technical University, Budapest [Original-language version not given].

"Imidazoquinazolininediones, IV. Structure and Ultraviolet Spectra of Some Potentially Tautomeric Imidazoquinazolininediones and Related 4-Quinazolinones"

Budapest, Acta Chimica Academiae Scientiarum Hungaricæ, Vol 47, No 4, 1966; pp 405-418.

Abstract [Authors' English summary, modified; article in English]: A series of potentially tautomeric 4-quinazolinones and imidazoquinazolininedione derivatives has been investigated. All compounds have been proved to exist, under the conditions of the present experiments, in a tautomeric modification which does not contain a C=N bond at C-2 exocyclic to the quinazoline ring, and in which the oxygen atom forms part of a carbonyl and not of a hydroxyl group. In the case of the 4-quinazolinone derivatives this statement is in full agreement with the general experience that potentially tautomeric heterocyclic compounds have N atoms which, when linked to the ring, are inclined to form amino- rather than imino groups, and the oxygen atoms affixed to the ring have a tendency to be present as carbonyl rather than hydroxyl groups. In imidazoquinazolininediones, however, a C=N bond exocyclic to one of the hetero rings must be present. The authors thank Mrs. E. Bereczkey for her careful work in recording the absorption spectra. Orig. art. has: 8 figures, 13 formulas and 1/2

0922 0020

L 01253-67

ACC NR: AT6035621

5 tables. [JPRS: 36,862]

TOPIC TAGS: tautomerism, organic azo compound, UV spectra

SUB CODE: 07 / SUBM DATE: 17 Mar 65 / ORIG REF: 005 / OTH REF: 003

hs  
Card 2/2

LANG, M.; SZIRAKY, Miklos [translator]

Preparation of the design of deep-drawing tools for asymmetric workpieces. Gepgyartastechn 3 no.6:225-235 Je'63.

1. Szerszamgepipari Intezet, Karl-Marx-Stadt (for Lang).
2. "Gepgyartastechnologia" szerkeszto bizottsagi Tagja  
(for Sziraky).

ROYZ, M.; ZALESSKIY, A. (Minsk); BALLOV, D.; LANG, N.

Using suggestions of efficiency promoters. Prom.koop. 12 no. 4:23-29  
Ap '58. (MIRA 11:4)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela oblpromsoveta,  
Poltava (for Royz). 2. Starshiy inzhener oblbytpromsoveta, Ryazan'  
(for Ballov). 3. Artel' "Tekstil'shevyprom," Ivanovo (for Lang).  
(Cooperative societies)

ZELENY, A.; KOZAK, J.; IANG, N.

On the effect of chlorpromazine on certain vegetative functions. Cesk. fysiol. 8 no.4:329-330 July 59.

1. Fysiologicky ustav lek. fak. KU, Plzen.  
(CHLORPROMAZINE, pharmacol.) (AUTONOMIC NERVOUS SYSTEM, pharmacol.)

KOZAK, J.; LANG, N.

Role of potassium ions in metabolic activities of chlorpromazine in vitro. Activ. nerv. sup. 4 no.2:205-206 '62.

1. Fyziologicky ustev lekarske fakulty Karlovy university v Plzni.

(CHLORPROMAZINE pharmacol) (POTASSIUM pharmacol)

CZECHOSLOVAKIA

SOVA, J.; KARLICEK, V.; TOPINKA, I.; LANG, N.; Clinic of Internal Diseases, Medical Faculty, Charles University (Klinika Chorob Vnitrnich Lek. Fak. KU), Plzen, Chief (Prednosta) Prof Dr J. SOVA

"Influence of Histamine on Vanilmandelic Acid Excretion in Diastolic Hypertension."

Prague, Casopis Lekaru Ceskych, Vol 106, No 9, 3 Mar 67, pp 250 - 252

Abstract [Authors' English summary modified] 7: Vanilmandelic acid excretion after intravenous stimulation with histamine was investigated in 7 normotonic and 10 hypertonic subjects. In normotonic subjects the excretion rose significantly, in hypertonic there was no change; even when nicotine and psychic stress were applied, no change was observed. The explanation is probably due to a disorder in catecholamine degradation and a deficiency in monoamino-oxidase activity. 2 Figures, 1 Table, 13 Western, 2 Czech references.

1/1

LANG, N. and TOPIKA

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LANG, N. N. and SOMOV, I. V.

"Variability in Tularemia Bacteria", Zhur Mikrobiol, Epidemiol i Immunobiol,  
No. 2, pp 47-52, 1950.

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000928520007-8"

LANG, Pavel, inz. CSc.

On the standard of planning and preparing projects of capital constructions by the Ministry of Fuel. Uhli 7 no.3:89-92 '65.

1. State Commission for Capital Construction, Prague.

LANG, Pavel, inz.

Use of the space in industrial halls. Poz stavby 11 no.4:  
196-198, 203-204 '63.

1. Statni planovaci komise, Praha.

LANG, Pavel, inz.

Road system in industrial plants. Inz stavby 10 no.7:260-264,  
JL '62.

1. Statni planovaci komise, Praha.

LANG, Pavel, inz.

Hydraulic transportation and pipelines. Doprava no.8:272-274  
'62.